

IN THE CLAIMS

Please amend the claims as follows:

{e1}1. (Currently Amended) A ~~method~~computer system for finding a worst case aggressor set of a victim net based on a plurality of logically exclusive sets, the computer system comprising instructions for:

forming a first set, wherein the first set comprises an aggressor net of the victim net;

using the first set and the plurality of logically exclusive sets to formulate a problem; and

solving the problem to determine a worst case aggressor net of the victim net, wherein the worst case aggressor set comprises the worst case aggressor net.

{e2}2. (Currently Amended) The ~~method~~computer system of claim 1, wherein the plurality of logically exclusive sets comprises a mutually exclusive set, and wherein the mutually exclusive set comprises a signal net.

{e3}3. (Currently Amended) The ~~method~~computer system of claim 1, wherein the aggressor net in the first set has a corresponding weight.

{e4}4. (Currently Amended) The ~~method~~computer system of claim 1, solving the problem comprising instructions for:

finding the worst case aggressor net of the victim net.

{e5}5. (Currently Amended) The ~~method~~computer system of claim 1, further comprising instructions for:

forming a second set, wherein the second set comprises an aggressor net that is in the first set and that is part of the plurality of logically exclusive sets.

{e6}6. (Currently Amended) The ~~method~~computer system of claim 5, further comprising instructions for:

forming a third set, wherein the third set comprises an aggressor net that is in the first set but is not part of the second set.

{e7}7. (Currently Amended) The ~~method~~computer system of claim 6, wherein the aggressor net in the third set becomes part of the worst case aggressor set.

{e8}8. (Currently Amended) The ~~method~~computer system of claim 5, further comprising instructions for:

reducing each of the plurality of logically exclusive sets to a second plurality of logically exclusive sets such that a net in a set of the second plurality of logically exclusive sets is part of the second set.

{e10}10.(Currently Amended) The ~~method~~computer system of claim 8, wherein an empty set in the second plurality of logically exclusive sets is removed from the second

plurality of logically exclusive sets.

{e11}11.(Currently Amended) The ~~method~~computer system of claim 8, solving the problem comprising instructions for:

using a first representation to represent a net in the second set;

using a second representation to represent a set in the second plurality of logically exclusive sets; and

creating an association between the first representation and the second representation when the net is part of the set.

{e11}11.(Currently Amended)The ~~method~~computer system of claim 10, wherein the first representation is a first node, and wherein the second representation is a second node.

{e12}12.(Currently Amended) The ~~method~~computer system of claim 10, wherein the association is an edge.

{e13}13.(Currently Amended) The ~~method~~computer system of claim 10, further comprising instructions for:

selecting the second representation;

selecting an adjacent net of the second representation such that the adjacent net has a weight greater than another adjacent net of the first representation;

adding the adjacent net to the worst case aggressor set;
removing an association of the second representation;
removing the second representation;
removing an association of the adjacent net;
removing the adjacent net; and
returning the worst case aggressor set when there are no representations of
the sets of the second plurality of logically exclusive sets
remaining in the problem.

{e14}14.(Currently Amended) The ~~method~~computer system of claim 1, wherein the
problem is represented graphically.

{e15}15.(Currently Amended) The ~~method~~computer system of claim 12, wherein the
graphical representation is a bipartite graph.

{e16}16.(Currently Amended) A software tool that finds a worst case aggressor set of a
victim net, comprising:

a processor;
a memory; and
software instructions residing in the memory and executable in the
processor for performing a series of operations to find a worst case
aggressor net based on a plurality of logically exclusive sets.

~~{e17}~~17.(Currently Amended) The software tool of claim 16, wherein the plurality of logically exclusive sets comprises a mutually exclusive set, and wherein the mutually exclusive set comprises a signal net.

~~{e18}~~18.(Currently Amended) The software tool of claim 16, further comprising:

a portion that forms a first set, wherein the first set comprise an aggressor net of the victim net;

another portion that forms a second set, wherein the second set comprises an aggressor net that is part of the first set and that is part of the plurality of logically exclusive sets;

another portion that forms a third set, wherein the third set comprises an aggressor net that is part of the first set but is not part of the second set;

another portion that reduces the plurality of logically exclusive sets to a second plurality of logically exclusive sets such that a net in a set of the second plurality of logically exclusive sets is part of the second set; and

another portion that formulates a problem based on the second set and the second plurality of logically exclusive sets.

~~{e19}~~19.(Currently Amended) The software tool of claim 18, wherein the problem is represented graphically.

~~{e20}~~20. (Currently Amended) The software tool of claim 19, wherein the graphical representation is a bipartite graph.

~~{e21}~~21. (Currently Amended) The software tool of claim 18, wherein the aggressor net in the first set has a corresponding weight.

~~{e22}~~22. (Currently Amended) The software tool of claim 18, wherein the worst case aggressor set comprises an aggressor net in the third set.

~~{e23}~~23. (Currently Amended) The software tool of claim 18, wherein an empty set in the second plurality of logically exclusive sets is removed from the second plurality of logically exclusive sets.

~~{e24}~~24. (Currently Amended) The software tool of claim 18, the problem comprising:

- a portion that uses a first representation to represent a net in the second set;
- another portion that uses a second representation to represent a set in the second plurality of logically exclusive sets; and
- another portion that creates an association between the first representation and the second representation when the net is part of the set.

~~{e25}~~25. (Currently Amended) The software tool of claim 24, wherein solving the problem determines the worst case aggressor net, the software tool further

comprising:

- a portion that selects a set in the second plurality of logically exclusive sets;
- another portion that selects an adjacent net of the set such that the adjacent net has a weight greater than another adjacent net of the set;
- another portion that adds the adjacent net to the worst case aggressor set;
- another portion that removes an association of the set;
- another portion that removes the set;
- another portion that removes an association of the adjacent net;
- another portion that removes the adjacent net; and
- another portion that returns the worst case aggressor set when there are no sets of the second plurality of logically exclusive sets remaining.

~~{e26}~~26.(Currently Amended) A ~~method~~computer system for solving a problem to find a worst case aggressor net based on a logically exclusive set, the computer system comprising instructions for:

- using a first representation to represent the logically exclusive set;
- selecting the first representation;
- selecting a second representation, wherein the second representation represents an adjacent net of the first representation;
- removing an association of the first representation;
- removing the first representation;
- removing an association of the second representation;

removing the second representation; and
returning the adjacent net represented by the second representation as the
worst case aggressor net.

{e27}27.(Currently Amended) The ~~method~~computer system of claim 26, wherein the first representation is a first node, and wherein the second representation is a second node.

{e28}28.(Currently Amended) The ~~method~~computer system of claim 26, wherein the association of the first representation is an edge, and wherein the association of the second representation is an edge.

{e29}29.(Currently Amended) The ~~method~~computer system of claim 26, wherein the adjacent net represented by the second representation has a weight greater than another net in the problem.

{e30}30.(Currently Amended) The ~~method~~computer system of claim 26, wherein the problem is represented graphically.

{e31}31.(Currently Amended) The ~~method~~computer system of claim 26, wherein the graphical representation is a bipartite graph.

{e32}32.(Currently Amended) A software tool, comprising:

a processor;
a memory; and
software instructions residing in the memory and executable in the processor for performing a series of operations for solving a problem to find a worst case aggressor net based on a logically exclusive set.

~~{e33}~~33.(Currently Amended) The software tool of claim 32, further comprising:

a portion that uses a first representation to represent the logically exclusive set;
another portion that selects the first representation;
another portion that selects a second representation, wherein the second representation represents an adjacent net of the first representation;
another portion that removes an association of the first representation;
another portion that removes the first representation;
another portion that removes an association of the second representation;
another portion that removes the second representation; and
another portion that returns the adjacent net represented by the second representation as the worst case aggressor net.

~~{e34}~~34.(Currently Amended) The software tool of claim 33, wherein the adjacent net represented by the second representation has a weight greater than another net in the problem.

{e35}35.(Currently Amended) The software tool of claim 32, wherein the problem is represented graphically.

{e36}36.(Currently Amended) The software tool of claim 35, wherein the graphical representation is a bipartite graph.

{e37}37.(Currently Amended) A ~~method~~computer system for formulating a problem to find a worst case aggressor net of a victim net based on a logically exclusive set, the computer system comprising instructions for:

using a first representation to represent a net, wherein the net is an aggressor net of the victim net and is part of the logically exclusive set;

using a second representation to represent a set, wherein the set is the logically exclusive set; and

selectively creating an association between the first representation and the second representation when the net is part of the set.

{e38}38.(Currently Amended) The ~~method~~computer system of claim 37, wherein the first representation is a first node, and wherein the second representation is a second node.

{e39}39.(Currently Amended) The ~~method~~computer system of claim 37, wherein the

association is an edge.

~~[e40]~~40.(Currently Amended) A software tool, comprising:

a processor;

a memory; and

software instructions residing in the memory and executable in the processor for performing a series of operations for formulating a problem to find a worst case aggressor net of a victim net based on a logically exclusive set.

~~[e41]~~41.(Currently Amended) The software tool of claim 40, further comprising:

a portion that uses a first representation to represent a net, wherein the net is an aggressor net of the victim net and is part of the logically exclusive set;

another portion that uses a second representation to represent a set, wherein the set is the logically exclusive set; and

another portion that selectively creates an association between the first representation and the second representation when the net is part of the set.